

REMARKS

With this paper, claims 1, 2, and 8-12 have each been amended once and remain pending. Claims 3-7 have been cancelled.

Objections to the Drawings

The examiner has objected to the drawings because they do not explicitly show a "means for pivotally supporting said composite spring to said ... vehicle wheel assembly" as recited in claims 3 and 6. Applicant has cancelled claims 3 and 6, thereby rendering the objection moot.

The examiner also objected to the drawings for not showing reference item "64" as recited in the original specification. In response, the applicants have provided a proposed drawing change to Fig. 2 showing reference items "64a" and "64b", which refer to the mold halves of the prior art. Paragraph [0026] has also been amended to properly refer to the reference designators in the proposed Fig 2 and more clearly describe the mold of the prior art.

Objections to the Specification

The examiner has objected to the specification because of informalities on page 1 line 11, page 3 line 18, and page 4 line 9. Applicants have amended paragraphs [0002], [0008], and [0010] to address these issues. Also, applicant identified an informality in the ABSTRACT and has provided a corrected ABSTRACT.

35 U.S.C. 112, Second Paragraph Rejections

The examiner has rejected claims 7-12 under 35 U.S.C. 112, second paragraph, for lacking proper antecedent basis in the claims. Applicant has cancelled claim 7, thereby rendering moot the rejection of that claim. Dependent claims 8-12 have been

amended to refer to a "composite spring having a sinusoidal neutral axis", an element which now has proper antecedent basis in amended claim 1.

35 U.S.C. 102(b) Rejections

The examiner has rejected claim 1 under 35 U.S.C. 102(b) as being anticipated by Booher. Booher discloses a vehicle suspension system having a longitudinally extending frame member 22 and a composite spring 50. Applicant has amended claim 1 to distinguish over Booher in that the composite spring of the applicants' invention has a sinusoidal neutral axis transversely spanning said vehicle frame members between parallel wheel assemblies. That is to say, the applicants' composite spring is a single-piece design which spans from one wheel to the other other across the frame. By comparison, the invention of Booher requires two composite springs, one at each wheel assembly, in order to suspend the frame.. Furthermore, the composite spring of the applicants' invention has a *sinusoidal neutral axis* 46. By comparison, Booher describes a spring having a "slight convex curvature" in the neutral condition (col. 7, lines 24-32). It is apparent that a slight convex curvature misses at least one-half cycle of the sinusoid neutral axis claimed by the applicants.

The examiner also rejected claim 1 as being anticipated by Finn. Again, while Finn discloses a suspension system having longitudinally extending vehicle frame members and a composite spring with two ends, Finn fails to disclose a spring with a sinusoidal neutral axis. Rather, Fig 5 of Finn shows a spring 48 having a linear neutral, or "free state", axis. It is not until the spring 48 is loaded in Fig. 7 that it assumes a sinusoidal axis. However, this is not a *neutral axis* as claimed by the applicants' amended claim 1.

35 U.S.C. 103(a) Rejection

The examiner has rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over Kusaka in view of Finn.

Again, while Kusaka may disclose a suspension system having a spring transversely spanning vehicle frame members and between the parallel wheel assemblies, neither Kusaka nor Finn disclose the applicants' claimed composite spring having a *sinusoidal neutral axis*. As discussed in the response to the 35 U.S.C. 102(b) section above, the spring shown in Fig. 7 of Finn is loaded - it is not "neutral" as claimed by the applicants.

While not relied on by the examiner for providing a sinusoidal neutral axis, applicants would like to point out that while Kusaka, in Fig. 7, shows a spring in Fig. 6b that appears to be sinusoidal, it is clear from the specification that the spring is flexing due to vertical movement of the wheel assemblies (col. 5, lines 8-15). Kusaka therefore also fails to provide a composite spring having a sinusoidal neutral axis.

The remaining claims depend either directly or indirectly from claim 1 which the applicant believes is now in condition for allowance. Consequently, applicants believe the remaining claims are now also in a condition for allowance.

CONCLUSION

Applicants respectfully submit that all rejection contained in the Office Action are addressed by this response and ask that the amended application be allowed.

Applicant has determined that no fee is due under this response. However, should the examiner find that a fee is due, please charge such fee to deposit account number 03-1800.

Respectfully submitted,


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